

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:)
Veerasamy, Vijayen, et al.)
Serial No. 10/773,796) Examiner: Marianne Padgett
Filed: 02/06/2004) Art Unit: 1792
Title: Recording Media Having Protective)
Overcoats of Highly Tetrahedral Amorphous) Attorney Docket No.: 07-09-4750
Carbon and Methods for Their Production)
_____)

DECLARATION OF DR. MANFRED WEILER UNDER 37 C.F.R. 1.132

Dear Sir:

I, the undersigned Manfred Weiler, hereby make the following declaration:

1. I am a co-inventor of the invention disclosed in U.S. Patent Application No. 10/773,796, entitled "Recording Media Having Protective Overcoats of Highly Tetrahedral Amorphous Carbon and Methods for Their Production" ("796 application").
2. I studied Physics at the University of Kaiserslautern, Germany, from 1981 to 1994, and hold a Diploma and Doctoral Degree in Physics from the University of Kaiserslautern, Germany. My dissertation for a doctoral degree was on highly tetrahedrally bonded amorphous hydrogenated carbon.
3. From October 1990 to March 1995, I served as a doctoral fellow at the Department of Physics, University of Kaiserslautern, Germany. Also, from January 1995 to March 1995, I was a visiting scientist at the Department of Engineering, Cambridge University, United Kingdom.

From April 1995 to August 1997, I worked as a research fellow at the Institute of Ion Beam Physics and Material Research, Research Center Rossendorf, Dresden, Germany. In November 1995, I founded a company, CCR TECHNOLOGY, which is a high-tech company that specializes in the development of processes, sources and systems for plasma enhanced material and surface treatment. I have been serving as the President and Managing Director of CCR TECHNOLOGY since its foundation in November 1995.

4. I have reviewed U.S. Patent No. 5,616,179 issued to Baldwin, *et al.* ("Baldwin"). Baldwin is teaching an entirely different method to deposit amorphous carbon from what we described in the '796 application. Baldwin was using an end hall "Kaufmann Type" DC ion source, which was well known in the art. I am very familiar with and have in-depth knowledge of this method. The end hall "Kaufmann Type" DC ion source generates an ion beam (positively charged) and requires a filament in order to neutralize the beam (*see* Fig. 3 and col. 10, lines 19 – 23 of Baldwin). A typical feature of such type of ion source is that the ion energy distribution depends strongly on the strength and orientation of the magnetic field which is superimposed to the plasma (*see also*, col. 3, lines 18 to 32, in particular, lines 24 to 28 of Baldwin). Besides the dependency of the ion energy distribution on the magnetic field, a typical feature of such source is that the ion energy distribution is broad because the potential of origin of the accelerated ions is **not** precisely defined. Baldwin is therefore not teaching a method to form a stream having a substantially uniform impact energy distribution. This is also confirmed by Baldwin himself at col. 6 lines 3 to 8 of Baldwin ("ion energy distribution contains both low energy ions and a high energy component of the beam which gives proper amount of high energy ion bombardment – this would normally remove the need for a second ion source for argon or other ion bombardment for ion-assisted deposition").

S. I hereby declare that all statements made herein are to the best of my knowledge and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made may jeopardize the validity of any patent that may issue from the '796 application.

Date: November 25th 2008

Signature: 
Manfred Weiler